

## CLAIM AMENDMENTS

Please amend the claims as follows.

1. (Currently Amended) A method for wirelessly transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the method comprising:

generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol;

transmitting, in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and

utilizing a plurality of co-located electric dipole antennae and a plurality of magnetic dipole antennae, said electric dipole antennae and magnetic dipole antennae co-located with one another at the subscriber unit to receive the selected data streams.

2. (Original) The method of claim 1 wherein each electric dipole antennae has a different polarization.

3. (Original) The method of claim 1 wherein each magnetic dipole antenna has a different polarization.

4. (Original) The method of claim 1 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

5. (Original) The method of claim 4 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.
6. (Original) The method of claim 4 wherein the data streams are transmitted via a scattering channel.
7. (Original) The method of claim 1 wherein the subscriber unit comprises a palm sized device.
8. (Original) The method of claim 7 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.
9. (Original) The method of claim 8 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.
10. (Original) The method of claim 9 wherein the data streams are transmitted via a scattering channel.
11. (Original) A method for wirelessly receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the method comprising:
  - utilizing co-located electric dipole antennae at the subscriber unit to transmit selected data streams on an assigned channel of a multiple access protocol;

generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol; and receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.

12. (Amended) The method of claim 11 wherein each electric dipole antennae has a different polarization.

13. (Original) The method of claim 12 wherein the electric dipole antennae comprise 3 electric dipole antennae.

14. (Original) The method of claim 13 wherein the 3 electric dipole antennae have 3 different polarizations.

15. (Original) The method of claim 14 wherein the data streams are transmitted via a scattering channel.

16. (Original) The method of claim 11 wherein the subscriber unit comprises a palm sized device.

17. (Original) The method of claim 16 wherein the electric dipole antennae comprise 3 electric dipole antennae.

18. (Original) The method of claim 17 wherein the 3 electric dipole antennae have 3 different polarizations.

19. (Original) The method of claim 18 wherein the data streams are transmitted via a scattering channel.

20. (Currently Amended) A system for wirelessly transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the system comprising:

means for generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol;

means for transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and

means for utilizing ~~co-located~~ a plurality of electric dipole antennae and a plurality of magnetic dipole antennae, said electric dipole antennae and magnetic dipole antennae co-located within a common antennae structure at the subscriber unit to receive the selected data streams.

21. (Original) The system of claim 20 wherein each electric dipole antennae has a different polarization.

22. (Original) The system of claim 20 wherein each magnetic dipole antenna has a different polarization.

23. (Original) The system of claim 20 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

24. (Original) The system of claim 23 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

25. (Original) The system of claim 24 wherein the data streams are transmitted via a scattering channel.

26. (Original) The system of claim 20 wherein the subscriber unit comprises a palm sized device.

27. (Original) The system of claim 26 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

28. (Original) The system of claim 27 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

29. (Original) The system of claim 28 wherein the data streams are transmitted via a scattering channel.

30. (Original) A system for wirelessly receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the system comprising:

means for utilizing co-located electric dipole antennae at the subscriber unit to transmit selected data streams on an assigned channel of a multiple access protocol;

means for generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol; and

means for receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.

31. (Original) The system of claim 30 wherein each electric dipole antennae has a different polarization.

32. (Original) The system of claim 30 wherein the electric dipole antennae has a different polarization.

33. (Original) The system of claim 32 wherein the 3 electric dipole antennae have 3 different polarizations.

34. (Original) The system of claim 33 wherein the data streams are transmitted via a scattering channel.

35. (Original) The system of claim 30 wherein the subscriber unit comprise a palm sized device.

36. (Original) The system of claim 35 wherein the electric dipole antennae comprise 3 electric dipole antennae.

37. (Original) The system of claim 36 wherein the 3 electric dipole antennae have different polarizations.

38. (Original) The system of claim 37 wherein the data streams are transmitted via a scattering channel.

39. (Original) A method for wireless transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the method comprising:

generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol, wherein the assigned channel comprises a scattering channel;

transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and

utilizing 6 co-located antennae at the subscriber unit to receive the selected data streams wherein the subscriber unit comprises a palm-sized device and the 6 co-located antennae comprise 3 electric dipole antennae and 3 magnetic dipole antennae wherein the 3 electric dipole

antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

40. (Original) A method for wireless receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the method comprising:

utilizing 3 co-located antennae at the subscriber unit to transmit selected data streams on an assigned channel of a multiple access protocol, wherein the assigned channel comprises a scattering channel, wherein the subscriber unit comprises a palm-sized device and the 3 co-located antennae comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations;

generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol; and

receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.

41. (Original) A system for wirelessly transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the system comprising:

means for generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol, wherein the assigned channel comprises a scattering channel;



means for transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and

means for utilizing 6 co-located antennae at the subscriber unit to receive the selected data streams wherein the subscriber unit comprises a palm-sized device and the 6 co-located antennae comprise 3 electric dipole antennae and 3 magnetic dipole antennae wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

42. (Original) A system for wirelessly receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the system comprising:

means for utilizing 3 co-located antennae at the subscriber unit to transmit selected data streams on an assigned channel of a multiple access protocol, wherein the assigned channel comprises a scattering channel, wherein the subscriber unit comprises a palm-sized device and the 3 co-located antennae comprise 3 electric dipole antennae, wherein the 3 electric dipole antennae have 3 different polarizations; and

means for receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.

43. (New) An apparatus comprising:

a receiver, to demodulate signals received via one or more wireless communication channels via an antenna structure; and